



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/820,613	04/08/2004	Kalin Spariosu	PD-03W133	8186

7590 01/26/2006

## RAYTHEON COMPANY

Patent Docket Administration

Bldg. E04, M/S N119

2000 E. El Segundo Blvd.

El Segundo, CA 90245-0902

EXAMINER

UNELUS, ERNEST

ART UNIT

PAPER NUMBER

2828

DATE MAILED: 01/26/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/820,613

Applicant(s)

SPARIOSU ET AL.

Examiner

Ernest Unelus

Art Unit

2828

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on 08 April 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 04/08/04, 09/27/05
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3, 7, 8, 12, and 13, are rejected under 35 U.S.C. 102(b) as being anticipated by Hemmati (US pat. 5,408,480).

With respect to claim 1, Hemmati discloses an active medium (21); a material (23) operationally coupled to said medium and having a transmittance property that varies in response to incident energy; and means (26) disposed external to said medium for applying energy to said material (see fig. 2 and col. 3, line 9-43).

With respect to claim 2, Hemmati discloses wherein said material is a saturable absorber (see col. 1, line 60).

With respect to claims 3 and 8, Hemmati discloses wherein said means for applying energy is a diode laser (26) (see fig. 2).

With respect to claim 7, Hemmati discloses an active medium (21 and 23); a saturable absorber material disposed within said medium (col. 1, line 60); and a light

Art Unit: 2828

source (26) disposed external to said medium for applying energy to said absorber (see fig. 2).

With respect to claim 12, Hemmati discloses an active medium (21); operationally coupling to said medium a material (23) having a transmittance property that varies as a function of incident energy; and applying energy to said material (see fig. 2).

With respect to claim 13, Hemmati discloses the step of applying said energy after pumping said medium (see fig. 2).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 4, 5, 9, and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hemmati (US pat. 5,408,480) in view of Waarts et al. (5,867,305).

With respect to claims 4 and 9, Hemmati discloses everything as claimed above without specifically disclosing a focusing optics disposed between said diode laser and said material. A focusing optics disposed between said diode laser and said material is

well taught by Waarts (see # 39 in fig. 2). In view of such teaching, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Hemmati by having a focusing optics disposed between said diode laser and said material to couple the light between the diode laser and said material, as disclosed by Waarts (see col. 9, lines 47-50).

With respect to claims 5 and 10, Hemmati discloses everything as claimed above without specifically disclosing a dichroic beamsplitter for directing said energy to said absorber material. A dichroic beamsplitter for directing said energy to said absorber material is well taught by Waarts (see # 27 in fig. 2). In view of such teaching, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Hemmati by having a dichroic beamsplitter for directing said energy to said absorber material to optically merge the pump light of wavelength with the input pulses of wavelength to develop high peak powers and pulse energy levels, as disclosed by Waarts (see col. 10, lines 9-12).

Claims 6 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hemmati (US pat. 5,408,480) in view of Fermann (US pat. 6,700,709).

With respect to claims 6 and 11, Hemmati discloses everything as claimed above without specifically disclosing a quasi-monolithic diode laser assembly ring. A quasi-monolithic diode laser assembly ring is well taught by Fermann (see col. 7, line 39). In

Art Unit: 2828

view of such teaching, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Hemmati by having a quasi-monolithic diode laser assembly ring to obtain a high-power diode systems with high brightness, as disclosed by Fermann (see col. 7, lines 27-28).

### **Conclusion**

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Chemla et al. (US pat. 4,860,296) discloses an active medium, operationally coupling to said medium a material having a transmittance property that varies as a function of incident energy, and applying energy to said material without specifically disclosing a quasi-monolithic diode.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ernest Unelus whose telephone number is 571-272-8596. The examiner can normally be reached on 9am to 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Minsun Harvey can be reached on 571-272-1835. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2828

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Minsun Harvey  
Supervisor  
Art Unit 2828

E.U

